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22879 7590 03/02/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER KEEHN, RICHARD G				
ART UNIT 2456		PAPER NUMBER		
NOTIFICATION DATE 03/02/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/780,516

Examiner

Richard G. Keehn

Applicant(s)

LACHELT ET AL

Art Unit

2456

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-845)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-27 have been examined and are pending.

This Office Action is made FINAL.

Response to Arguments

1. Applicant's arguments, see pages 8 and 9, filed 12/03/2008, with respect to Specification Objection have been fully considered and are persuasive. The objection of the Specification has been withdrawn.
2. Applicant's arguments, see pages 9 and 10, filed 12/03/2008, with respect to Drawing Objections have been fully considered and are persuasive. The objection of the drawings has been withdrawn.
3. Applicant's arguments, see page 10, filed 12/03/2008, with respect to the rejection of Claim 9 under 35 U.S.C. 112 have been fully considered and are persuasive. The 35 U.S.C. 112 rejection of Claim 9 has been withdrawn.
4. Applicant's arguments filed 12/03/2008 with respect to prior art rejection of Claims 1-27 have been fully considered but they are not persuasive.
5. Applicant argues that primary reference Refai et al. in combination with secondary reference Klos would change the principle operation of Refai et al. and would also render Refai et al. unsatisfactory for its intended purpose. Page 16 of the Applicant's arguments recites "the suggested combination of Refai in view of Klos renders Refai unsatisfactory for its intended purpose because Refai would be modified from a 'configuration management framework' that only configures target entities and

does not activate target entities to a service management system that provides activation requests that activates target entities." In making this argument, Applicant argues that the limitation admittedly not expressly disclosed from Refai et al. (activation), but disclosed by Examiner using the secondary reference Klos, would change the principle operation of Refai et al. by arguing that since Refai et al. is silent on the missing limitation of activation, Refai et al.'s intended purpose is not to include the missing limitation of activation. There is nothing in Refai et al. that suggests that *activation was not to be performed* or that *only configuration was to be performed*. Refai et al. does not explicitly disclose activation, but activation is implied in ¶ [0036] of Refai et al. in "the operation of communications network equipment." Otherwise, mere configuration without operation would be a useless invention. Therefore, Examiner is not persuaded by the argument that "Refai would be modified from a 'configuration management framework' that only configures target entities and does not activate target entities." Furthermore, the argument that Refai et al. would be converted from a configuration management framework to a service management system ignores the fact that in making the combination, Refai et al. would not lose its configuration management function. Therefore this argument is also unpersuasive.

6. Applicant also makes a similar argument that primary reference Refai et al. in combination with secondary reference Rockwell would change the principle operation of Refai et al. and would also render Refai et al. unsatisfactory for its intended purpose. Applicant argues that the timer function in Rockwell is:

- a. not capable of performing repetitively at a frequency;

- b. not capable of allowing one to take as long as it needs; and
- c. not capable of being stopped on detecting an error.

As to a, the timer function is used in many industrial applications at a period equal to the cycle time of the device it's controlling. To perform at a frequency, one merely needs to enable the timer at a frequency. Therefore, this argument is unpersuasive.

As to b, preset value of the timer function is programmable. If additional time is required, one merely needs to modify the accumulated value during timing, or alternatively disable the timer (the rung goes false) until one wishes to resume. Therefore, this argument is unpersuasive.

As to c, the timer function can be stopped either by freezing the accumulated value or simply making the condition preceding the timer false. Error can be detected merely by monitoring the enable bit while the logic expects the timer to be timing. Therefore, this argument is also unpersuasive.

Therefore, Rockwell does not change the principle operation of Refai et al., nor does Rockwell render Refai et al. unsatisfactory for its intended purpose. Therefore, Applicant's argument is unpersuasive.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0139193 A1 (Refai et al.), and further in view of US 2004/0022379 A1 (Klos et al.), and Rockwell Automation's Non-Patent Literature publication 1785-6.1 (Rockwell).

As to Claims 1, 12 and 20, Refai et al. disclose a method, arrangement and an article of manufacture comprising a program storage medium having computer readable code embodied therein, said computer readable code being configured substantially as claimed to activate a plurality of target elements in a computing arrangement, comprising:

receiving a high-level [...] request pertaining to said plurality of target elements (Refai, Page 2, paragraphs 0019 and 0020 describe the work management module responding to the scheduler's high level request pertaining to the configuration and execution of network target entities. Furthermore the policy module also receives a high level request pertaining to the target elements);

parsing said high-level [...] request into a plurality of atomic requests (Refai, Page 2 paragraph 0020 describes the work management and policy modules working together to parse the high level request into smaller requests); and

of said plurality of atomic requests (Refai, Page 2 paragraph 0020 describes the work management and policy modules working together to parse the high level request into smaller requests); and

of said plurality of target elements (Refai, Page 2, paragraphs 0019 and 0020 describe the work management module responding to the scheduler's high level request pertaining to the configuration and execution of network target entities).

Refai et al. do not explicitly disclose activation requests, but Klos et al. disclose activation request (Klos et al. – Page 44, ¶ [0832] discloses the original activation request being separated into multiple activation requests).

Refai et al. disclose a first atomic request, target element and journaling proxy but do not disclose receiving at time t1 a first atomic request at a first journaling proxy, said first journaling proxy being associated with a first target element, but Rockwell discloses an invention substantially as claimed, including receiving at time t1 a first atomic request at a first journaling proxy, said first journaling proxy being associated with a first target element (Rockwell - Page 2-4 discloses the TON instruction used on programmable logic controllers to accept a request at time T1 when the "rung goes true" and uses the predefined configuration parameters of time base and preset to determine when to transfer the request at a time T2 when conditions of time base times preset have elapsed. Said timer journals the accumulated time elapsed from the time T1), and

said first journaling proxy intentionally delaying sending said first atomic request to said first target element for execution until a time t2 that satisfies a set of predefined configuration parameters for said first target element (Rockwell - Page 2-4 discloses the TON instruction used on programmable logic controllers to accept a request at time T1 when the "rung goes true" and uses the predefined configuration parameters of time base and preset to determine when to transfer the request at a time T2 when conditions

of time base times preset have elapsed. Said timer journals the accumulated time elapsed from the time T1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine activation requests taught by Klos et al. with receiving a high-level request pertaining to said plurality of target elements and parsing said high-level request into a plurality of atomic requests taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to separate activation requests due to the need to update at different times (Klos et al. – Page 44, ¶ [0832]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine receiving at time t1 a first atomic request [...] at a first journaling proxy, said first journaling proxy being associated with a first target element, and said first journaling proxy intentionally delaying sending said first atomic request to said first target element for execution until a time t2 that satisfies a set of predefined configuration parameters for said first target element taught by Rockwell with activating a plurality of target elements taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to separate activation request delivery due to the need to update at different times (Klos et al. – Page 44, ¶ [0832]).

As to Claims 2, 13 and 21, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method,

arrangement and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1, 12 and 20 respectively, wherein said set of predefined configuration parameters for said first target element specifies a predefined time window within which said executing said first atomic request occurs (Refai, Page 4, paragraph 0059 describes predefining a time window within which to execute).

As to Claims 3, 14 and 22, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method, arrangement and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1, 12 and 20 respectively, wherein said first atomic request includes resetting said first target element (Refai, Page 2, paragraph 0019 describes a plurality of configuration requests which would include reset functions), to a predetermined value (Rockwell, Page 2-19 shows the operation of the CTU instruction which allows setting to a predetermined value by entering a value into the "Preset" register); and

said resetting only occurs after a predefined number of reset-containing requests for said first target element are accumulated by said first journaling proxy since said first target element was last reset (Rockwell, Page 2-19 shows the operation of the CTU instruction which counts up a configurable number of events), said resetting only occurs once at said first target element for said predefined number of reset-containing requests (Rockwell, Page 2-19 shows the operation of the CTU instruction which after counting

up a configurable number of events, sends the DN signal which indicates that the number of events received matches the configurable preset held in the Preset register).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the counting method taught by Rockwell with the task resetting method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to improve resetting efficiency by waiting until a specified number of reset requests occurred.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the resetting to a predetermined value method taught by Rockwell with the resetting of the first target element method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to reset to predetermined values for flexibility of setup.

As to Claims 4, 15 and 23, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method, arrangement and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1, 12 and 20 respectively, wherein said first atomic request includes resetting said first target element (Refai, Page 2, paragraph 0019 describes a plurality of configuration requests which would include reset functions), to a predetermined value (Rockwell, Page 2-19 shows the operation of

the CTU instruction which allows setting to a predetermined value by entering a value into the "Preset" register); and

said resetting of said first target element only occurs after an expiration of a predefined time period since said first target element was last reset (Rockwell, Page 2-49 shows the operation of the TON instruction which after counting up a configurable number of time units, sends the DN signal which indicates that the number of time units counted matches the configurable preset time held in the Preset register).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the timing method taught by Rockwell with the task resetting method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to improve resetting efficiency by waiting until a specified amount of time had elapsed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the resetting to a predetermined value method taught by Rockwell with the resetting of the first target element method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to reset to predetermined values for flexibility of setup.

As to Claims 5, 16 and 24, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method,

arrangement and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1, 12 and 20 respectively, wherein said first atomic request includes resetting said first target element (Refai, Page 2, paragraph 0019 describes a plurality of configuration requests which would include reset functions), to a predetermined value (Rockwell, Page 2-19 shows the operation of the CTU instruction which allows setting to a predetermined value by entering a value into the "Preset" register); and

said resetting only occurs after an expiration of a predefined time period since said first atomic request is received by said first journaling proxy (Rockwell, Page 2-49 shows the operation of the TON instruction which after counting up a configurable number of time units, sends the DN signal which indicates that the number of time units counted matches the configurable preset time held in the Preset register. The start of time count is when the time rung goes true, which can be triggered by any event including the time when the first atomic request is received by said first journaling proxy).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the timing method taught by Rockwell with the task resetting method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to monitor the amount of time a request takes and base a reset delay on the triggering of the event of an excess of elapsed time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the resetting to a predetermined value method taught by Rockwell with the resetting of the first target element method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to reset to predetermined values for flexibility of setup.

As to Claims 6 and 17, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method and arrangement of claims 1 and 12 respectively, wherein said first atomic request includes resetting said first target element (Refai, Page 2, paragraph 0019 describes a plurality of configuration requests which would include reset functions), to a predetermined value (Rockwell, Page 2-19 shows the operation of the CTU instruction which allows setting to a predetermined value by entering a value into the "Preset" register); and

said time t2 occurs responsive to a first occurrence of one of a first event and a second event, said first event representing an accumulation of a predefined number of reset- containing requests for said first target element by said first journaling proxy (Rockwell, Page 2-19 shows the operation of the CTU instruction which after counting up a configurable number of events, sends the DN signal which indicates that the number of events received matches the configurable preset held in the Preset register), said second event representing an expiration of a predefined time period since said first atomic request is received by said first journaling proxy (Rockwell Page 2-49 shows the

operation of the TON instruction which after counting up a configurable number of time units, sends the DN signal which indicates that the number of time units counted matches the configurable preset time held in the Preset register. The start of time count is when the time rung goes true, which can be triggered by any event including the time when the first atomic request is received by said first journaling proxy).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the counting and timing methods taught by Rockwell with the task resetting method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to monitor the amount of time a request takes and base a reset delay on the triggering of the event of an excess of elapsed time; and to monitor the amount of time a request takes and base a reset delay on the triggering of the event of an excess of elapsed time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the resetting to a predetermined value method taught by Rockwell with the resetting of the first target element method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide a means to reset to predetermined values for flexibility of setup.

As to Claim 7, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method of claim 1 wherein only a

subset of target devices that receive atomic requests parsed from said high-level request are associated with journaling proxies (Refai, Page 2 paragraph 0020 describes the work management and policy modules working together to parse the high level request into smaller requests; Rockwell – Page 2-4 discloses the TON proxy).

The motivation and obviousness arguments are the same as in Claim 1.

As to Claim 8, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method of claim 7 wherein each target device of said subset is associated with a different journaling proxy (Rockwell – Page 2-4 discloses the TON journaling proxy dedicated to a single input request and single output response).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine dedicated proxies taught by Rockwell with the atomic request method taught by Refai et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to provide individual resource proxies dedicated to each target device because of differing needs or configurations of said individual target devices. Dedicated proxies, customized to the individual device would allow more efficient proxy execution, improved response, and flexibility to allow future device configurations to be adapted to the system.

As to Claims 9 and 25, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1 and 20 respectively, further comprising sending a qualified success message from said first journaling proxy to said activation engine after said first atomic request is received at said first journaling proxy, said qualified success message enabling said activation engine to consider said high-level request a provisional success in order to attend to any other pending high-level activation request (Refai, Page 5, paragraph 0062-0063 describe the process of testing the potential success of an upcoming configuration job, and sending back that status so that further decisions can be made by the requestor. Then in paragraph 0066, the "listener module" is described as being able to send a signal that a resource(s) is missing at the time of attempted configuration command execution to the requesting device; Klos et al. – Page 44, ¶ [0832] discloses activation request; Rockwell – Page 2-4 discloses the TON proxy).

The motivation and obviousness arguments are the same as in Claim 1.

As to Claims 10 and 26, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 9 and 25 respectively, wherein said qualified success message is sent only after said first journaling proxy ascertains that said first target element is capable of performing all tasks specified by said first atomic request but for

at least one unsatisfied parameter in said predefined configuration parameters (Refai, Page 5, paragraph 0062-0063 describe the process of testing the potential success of an upcoming configuration job, and sending back that status so that further decisions can be made by the requestor. Then in paragraph 0066, the "listener module" is described as being able to send a signal that a resource(s) is missing at the time of attempted configuration command execution to the requesting device. By first requesting validation, then receiving the error from the listener module, one can detect that the target element is capable of performing all tasks specified by said first atomic task but for at least one unsatisfied parameter; Rockwell – Page 2-4 discloses the journaling proxy).

The motivation and obviousness arguments are the same as in Claim 1.

As to Claims 11 and 27, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the method and an article of manufacture comprising a program storage medium having computer readable code embodied therein of claims 1 and 20 respectively, further comprising undoing all completed atomic tasks that have been completed pursuant to said high level activation request if said first target element is unable to complete said first atomic request when said first atomic request is executed at said first target element (Refai, Page 5, paragraph 0067 describes the ability to undo configuration changes with flexibility to specify which target(s) to undo; Klos et al. – Page 44, ¶ [0832] discloses activation request).

The motivation and obviousness arguments are the same as in Claim 1.

As to Claim 18, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the arrangement of claim 12 wherein said journaling proxy is configured to send a qualified success message to said activation engine after said atomic request is received at said journaling proxy, said qualified success message enabling said activation engine to consider said high-level request a provisional success in order to attend to any other pending high-level activation request (Refai, Page 5, paragraph 0062-0063 describe the process of testing the potential success of an upcoming configuration job, and sending back that status so that further decisions can be made by the requestor. Then in paragraph 0066, the "listener module" is described as being able to send a signal that a resource(s) is missing at the time of attempted configuration command execution to the requesting device; Rockwell – Page 2-4 discloses the journaling proxy).

The motivation and obviousness arguments are the same as in Claim 1.

As to Claim 19, the combination of Refai et al., Klos et al. and Rockwell discloses an invention substantially as claimed, including the arrangement of claim 18 wherein said qualified success message is sent only after said journaling proxy ascertains that said target element is capable of performing all tasks specified by said atomic request but for at least one unsatisfied parameter in said predefined configuration parameters. (Refai, Page 5, paragraph 0062-0063 describe the process of testing the potential

success of an upcoming configuration job, and sending back that status so that further decisions can be made by the requestor. Then in paragraph 0066, the "listener module" is described as being able to send a signal that a resource(s) is missing at the time of attempted configuration command execution to the requesting device. By first requesting validation, then receiving the error from the listener module, one can detect that the target element is capable of performing all tasks specified by said first atomic task but for at least one unsatisfied parameter; Rockwell – Page 2-4 discloses the journaling proxy).

The motivation and obviousness arguments are the same as in Claim 1.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard G. Keehn whose telephone number is 571-270-5007. The examiner can normally be reached on Monday through Thursday, 9:00am - 8:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RGK

/Yasin M Barqadle/
Primary Examiner, Art Unit 2456